WHAT IS CLAIMED IS:

1. A data network for communicating data between a sender unit and a receiver unit, comprising:

a core network including relay elements intercoupled by data links;

a gateway element coupled to the core network and to the sender unit, the receiver unit being coupled to the core network, the gateway element having at least one information table identifying at least one route from the gateway element through the core network to the receiver unit, including the status of the route.

2. A method of management of data communication through a core network between a sender unit and a receiver unit that includes the steps of:

defining at least one communicative route through the core network between the sender and receiver units that includes a plurality of network links that each have a predetermined communication resource;

coupling the sender and receiver units to the core network with a sending and receiving gateway element, respectively;

allocating to the sending gateway element a first portion of the predetermined communication resource of at least certain of the network links forming a communicative route between the sending and receiving gateway elements, and maintaining at the sending gateway element information indicative of the allocated predetermined communication resource;

receiving at the sending gateway element a request from the sender unit for a data transfer across the route, the request including a specification of requested communication resource;

the sending gateway checking the information to grant the request if the communicating capacity of the communicative route is available.

3. The method of claim 2, including allocating a second portion of the predetermined communication resource of the certain of the network links.

4. The method of claim 3, wherein the step of checking the information includes reconfiguring the predetermined communicative resource of the certain of the network links re-allocate at least a portion of the communicative resource allocated to the receiving gateway element to the sending gateway element.

5. The method of claim 2, wherein the predetermined communication resource is a communication bandwith.

6. The method of claim 2, wherein the predetermined communication resource includes a communication bandwith.

7. A method of admission control of data to a core network having a number of relay nodes interconnected by data links, each of the data communicating links having a predetermined data communication capacity, the method including the steps of:

communicatively coupling sending and receiving gateway elements to the core network;

connecting first and second data transfer elements to the sending and receiving gateway elements, respecting, for data communication by a route through the core network containing certain of the data links;

assigning first and second portions of the data communication capacity of at least the certain of the data links to the sending and receiving gateway elements, respectively;

providing the sending gateway element with information indicative of the first portion;

the sending gateway element responding to a request for data communication of a requested capacity from the first data transfer element by checking the information, and granting the request if the communication capacity of the certain data links is at least equal to or greater than the requested capacity.

8. The method of claim 7, wherein the sending step includes re-assigning at least a part of the second portion to the first portion of the data communication capacity of at least one of the certain data links.

9. The method of claim 8, including the step of providing the receiving gateway element with information indicative of the second portion.

10. The method of claim 9, wherein the step of re-assigning includes decreasing the information indicative of the second portion by the part of the second portion re-assigned to the first portion.

11. The method of claim 10, wherein the step of re-assigning includes increasing the information indicative of the first portion by the part of the second portion re-assigned to the first portion.

12. A system for providing a QoS communication route from a first communicting entity to a second communicating entity through a core network that includes a plurality of network links, each network link having a predetermined communication resource, the system including;

a sending gateway element and a receiving gateway element respectively coupling the first and second communicating entities to the core network;

assigning the sending gateway element a first portion of the predetermined communication resource of at least certain of the network links forming a communicative route between the sending and receiving gateway elements, and maintaining at the sending gateway element information indicative of the allocated predetermined communication resource;

receiving at the sending gateway element a request from the sender unit for a data transfer across the route, the request including a specification of requested communication resource;

the sending gateway checking the information to grant the request if the communicating capacity of the communicative route is available.